

## REMARKS

### Status of the Claims

Claims 3-6 and 8-21 are pending in the present application. Claims 1, 2 and 7 have been cancelled without prejudice or disclaimer of the subject matter contained therein.

### Objection to Claims 5-20

Claims 5-20 have been objected to by the Examiner as being in improper form because a multiple dependent claim cannot depend from any other multiple dependent claim. Accordingly, claims 5-20 have been amended to address this objection to the claims. These amendments are non-narrowing claim amendments. In view of the amendments to claims 5-20 reconsideration and withdrawal of the objection of the claims are respectfully requested.

### Rejection of Claims 1, 2 and 4 Under 35 U.S.C. 102(b)/103(a) Over WO 00/71544

Claims 1, 2 and 4 have been rejected by the Examiner under 35 U.S.C. 102(b) and/or under 35 U.S.C. 103(a) as being obvious over WO 00/71544 [WO '544] for the reasons set forth on page 3 of the Office Action. This rejection is respectfully traversed. Reconsideration and withdrawal thereof are respectfully requested.

The rejection of claims 1 and 2 is moot in view of the cancellation of these claims. The rejection of claim 4 is moot since it is dependent, as amended, on claim 3.

Accordingly, in view of the cancellation of claims 1 and 2 and in view of the amendments to claim 4, the rejection of claims 1, 2 and 4 under 35 U.S.C. 102(b) and/or under

35 U.S.C. 103(a) as being obvious over WO 00/71544 for the reasons set forth on page 3 of the Office Action should be withdrawn by the Examiner.

**Rejection of Claims 3 and 4 Under 35 U.S.C. 103(a) Over WO 00/71544 in view of WO 97/03096**

Claims 3 and 4 have been rejected by the Examiner under 35 U.S.C. 103(a) over WO 00/71544 in view of WO 97/03096 for the reasons set forth on page 4 of the Office Action. This rejection is respectfully traversed. Reconsideration and withdrawal thereof are requested.

**The Present Invention**

The present invention as recited in claim 3 relates to a method for manufacturing a post-crosslinkable thermoplastic resin comprising polymerizing a polymerizable composition (A) comprising a norbornene monomer, a metathesis polymerization catalyst, a chain transfer agent, and a crosslinking agent by bulk polymerization in order to produce post-crosslinkable thermoplastic resin. The method of claim 3 produces a post-crosslinkable thermoplastic resin in the polymerizing step that has not been completely crosslinked despite the presence of crosslinking agent.

The present invention as recited in claim 11, as amended, relates to a post-crosslinkable thermoplastic resin produced by the method according to claim 3. This resin is not as yet completely cross-linked as it is post-crosslinkable [e.g. capable of being crosslinked.]

The present invention as recited in claim 16, as amended, relates to a method for producing an insoluble crosslinked thermoplastic resin comprising crosslinking the post-

crosslinkable thermoplastic resin according to claim 11. The amendments to claim 16 are merely clarifying, non-narrowing claim amendments.

The present invention as recited in claim 21 relates to a method for manufacturing an insoluble polymer, comprising:

polymerizing a polymerizable composition (A) comprising a norbornene monomer, a metathesis polymerization catalyst, a chain transfer agent, and a crosslinking agent by bulk polymerization without completely crosslinking the polymerizable composition (A) during the polymerizing of polymerizable composition (A), and then

crosslinking said post-crosslinkable thermoplastic resin in the presence of the crosslinking agent in polymerizable composition (A) in order to form the insoluble polymer.

#### **Distinctions Between the Present Invention and the Prior Art**

Applicant agrees with the Examiner that WO '544 is deficient in that it does not teach bulk polymerization of a polymerizable composition comprising a crosslinking agent as claimed. The Examiner relies upon the teachings of WO '096 to correct this deficiency. However, Applicant respectfully submits that the Examiner has not established a *prima facie* case of obviousness because there is no motivation to combine the references in the manner suggested by the Examiner.

WO '544 is directed to a new catalyst and to methods of making and using the same. There is no motivation for adding a crosslinking agent in order to form the insoluble polymer taught by the WO '544 reference. Indeed, whenever insoluble polymers are formed in WO '544

[always in the absence of a crosslinking agent], a chain transfer agent is added to resolubilize the polymer.

More specifically, the Examiner's attention is directed to Example 6 of the WO '544 reference, which teaches that the catalysts thereof are capable of polymerizing a variety of low strain cyclic olefins including cyclooctadiene, cyclooctene and several functionalized and sterically hindered derivatives with extremely low catalyst loadings. Further, elevated temperatures (55°C) generally increased the yields of polymer while reducing reaction times. The inclusion of acyclic olefins which act as chain transfer agents (CTA's) controlled the molecular weights. This addition of chain transfer agents makes the undesirable insoluble polymers soluble. Indeed, the WO '544 appears to always intend to make soluble polymers as it teaches a technique to resolubilize the undesirable insoluble polymers.

Accordingly, the addition of CTA's is desirable when insoluble polymers are obtained by ring-opening monomers such as COE in bulk. In this regard, it is clear the WO '544 intends to produce soluble polymers and never wants to produce insoluble polymers. Indeed, the WO '544 reference expressly teaches away from forming the claimed method of producing polymers and thus there is no motivation for adding crosslinking agent in a polymerization step to form a resin that is capable of being crosslinked in a subsequent step, as claimed.

In summary, the WO '544 reference provides no motivation for adding a crosslinking agent since it teaches the production of soluble polymers and teaches solubilizing the polymer if an undesirable insoluble polymer is formed.

The WO '096 reference discloses the use of a crosslinking agent in order to form a polymer. There is no motivation to use a cross-linking agent when the primary reference desires the formation of soluble polymers.

Accordingly, the combination of the teachings of the WP '544 reference and the WO '096 would not suggest utilizing a crosslinking agent in the production of soluble polymers. There is no motivation for combining the references in the manner suggested by the Examiner because the WP '544 reference teaches away from the formation of an insoluble polymer and thus the use of crosslinking agents. Accordingly, the rejection should be withdrawn.

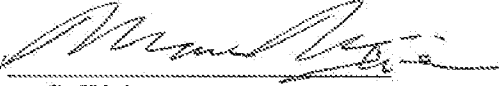
In view of the above amendment, Applicant believes the pending application is in condition for allowance.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Marc S. Weiner, Reg. No. 32,181 at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.14; particularly, extension of time fee.

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Respectfully submitted,

By 

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